

Crewkerne & District Astronomical Society

Sky Notes September 2016

All timings are Universal Time. (G.M.T.). Add 1 hour for B.S.T.

Autumnal Solar Equinox - On Sept. 22, when daylight and darkness are equal.

Moon's Phases

New	September	01d. 09h. 03m.
First Quarter	"	09d. 11h. 49m.
Full	"	16d. 19h. 05m. on junctio
Last Quarter	"	23d. 09h. 56m.
Moon at apogee (furthest from Earth)	Sept.	06d. 19h. Diam. 30' 30".
Moon at perigee (nearest to Earth)	"	18d. 17h. " 33' 01"

Annular Solar Eclipse, 1st September. Generally visible from southern Africa, S.E. Atlantic and southern Pacific. Eclipse starts at 06h. 13m., and ends at 12.00h. Maximum annularity occurs at 09h.05m. at 10° 25' S., Long. 37° 20' E. Visible from northern Mozambique, East Africa. Nothing is visible from Europe.

Penumbral Lunar Eclipse, 16th September. Eclipse starts at 16h. 52m., maximum at 18h.54m. and ends at 20h.56m. At greatest eclipse 90% of the Moon lies in the Earth's penumbral or outer shadow. This occurs only ½ hour after it has risen over our eastern horizon. All in all, not a very good show!

The Planets

Mercury : At the start of the month it sets at sunset, and is at inferior solar conjunction on the 12th. It rises at dawn, 05.30, on the 15th. Greatest elongation occurs on the 28th. (18°W.) when it rises at 04.15, 1¼ hours before dawn. It starts the month in western Virgo, lying some 5° N. of the mag. 3.6 star Zavijava, Beta Virginis. Moving N.W. it enters Leo around the 8th. It reaches a stationary point on the 21st, then turns back S.E.

Mid month Mercury will be mag. +.3, 10" diam., elongation 4° W. and rising at sunrise - 05.30.

Venus : Continues to be an early evening object. On the 1st. it sets at 19.30, 40 minutes after sunset, and by the 30th. at 18.30, ¾ hour after the Sun. It starts the month in western Virgo. Travelling S.E. it passes 3° N. of Spica, the 0.98 mag. star Alpha Vir. on the 18th, and ends the month 2½° W. of the border with Libra and 1° S.W. of the mag. 4.5 star Lambda Virginis. A total distance of 37°.

Mid month Venus will be mag. -3.9, 11.5" diam., elong. 26.5° E. and setting at 19.00.

Mars : Remains an early evening object. At the beginning of the month setting at 21.40, nearly 3 hours after sunset, and at the end 20.50, 3½ hours after the Sun. It starts the month in S.W. Ophiuchus. Moving E. it enters Sagittarius around the 24th, ending the month 6½° inside it. A total travel of 21°. On the 8th. Mars will pass 9° S. of Saturn.

Mid month it will be mag. -0.1, 9.6" diam., elong. 90° E. and setting at 21.10, 3 hours after sunset.

Jupiter : Heading for solar conjunction on the 26th, it starts the month as a very early evening object. On the 1st. setting at 19.20, only ½ hour after sunset, and on the 26th. at sunset - 17.50. It then becomes a morning object, on the 30th. rising at 05.50, 10 minutes before dawn. Starting the month in western Virgo, 1° S.E. of Zavijava the 3.6 mag. star Beta Vir. it travels S.E., ending the month ½° W. of mag. 3.9 star Eta Vir. A total distance of 6°.

Mid month Jupiter will be mag. -1.7, 30.6" diam., elong. 9° E. and setting at 18.30, 20 mins. after sunset.

Saturn : An evening object, getting earlier. At the beginning of the month it sets at 22.00, 3¼ hours after sunset, and by the end at 20.00, 2½ hours after the Sun. Remaining in S.W. Ophiuchus, it moves 1½° E. during the month, ending it 8° S.W. of Sabik, the mag. 2.4 star Eta (35) Oph. and 6° N.N.E. of 1st mag. Antares, Alpha Scorpii. As previously mentioned, on the 8th. Saturn will be passed by Mars, 9° S. of it.

Mid month Saturn will be mag. +0.5, disc 16.3" diam., rings 15" diam., elong. 78° E. and setting at 21.00, 2¼ hours after sunset.

Titan, mag. 8.2 & max. elong. 170". Greatest W. elong. on Sept. 5 & 21, Greatest E. elong. Sept. 13 & 29.

Uranus : An evening / morning object heading for opposition on Oct. 15. On the 1st. it rises at 20.10, an hour & 20 mins. after sunset. On the 30th. it rises at 17.50, ½ hour after sunset. Still in S.E. Pisces close to the border with Cetus. During the month it travels 52 arc minutes S.W., ending it 2.4° N.N.W. of the mag. 4.8 star Mu (98) Piscium.

Mid month it will be mag. 5.7, 3.7" diam., elong. 150° W., and rising at 19.00, 50 minutes after sunset.

Neptune : With opposition on the 2nd, it is the best placed planet. At the start of the month it rises at sunset - 18.50, and doesn't set until dawn on the 2nd. - 05.15. At the end of the month it rises around 17.00, 40 minutes before sunset, and it sets at 03.20, 2¼ hours before dawn. Remaining in central Aquarius it moves 44 arc mins. S.W. during the month, ending it 2° N.N.E. of the mag. 6.2 star 70 Aqu.

At opposition it will be mag. 7.8, 2.4" diam., and elong. 180°. At midnight on the 2nd. it will lie due South, at an altitude of 30° from our area. Its R.A. will be 22h. 49m. & Dec. -8° 30'. On the 15th. at 20.00 Neptune will be 1° S. of the nearly Full Moon. An occultation will be visible from eastern Europe and Russia.

Meteors

Piscids : September - October. Two maxima occur in Sept. The first around the 8th. Radiant is at R.A. 00h. 36m., Dec. +07°. 3° S.W. of Delta Piscium. Culmination at 21.00 U.T., altitude 21°. Zenith Hourly Rate 10. Moon not too favourable, 1 day before F.Q., setting at 21.53. The second max. is around the 20th. with its radiant at R.A. 00h.24m., Dec.00° 10', 10° S.W. of Delta. Culmination at 00h., altitude 42°. Z.H.R. 5. Moon unfavourable - 4 days after Full, rising at 20.19, setting at 11.30 on 21st.

Double Stars

Albireo : Beta (6) Cygni. Probably one of the best known doubles. Situated as the Swan's head or the foot of the 'Northern Cross' in Cygnus, right on the border with Vulpecula. With magnitudes of 3.1 and 4.7, and a separation of 34" they are great in a small telescope, and can be detected in binoculars. Beta A, the brighter, is amber coloured and has the luminosity of 760 Suns and has a mag. 14 companion. Beta B is blue/green, with a luminosity of 120 Suns. They are not in fact a true binary pair, as modern observations show them lying 386 and 376 L.Y. away from us and some 4,400 A.U. apart. R.A 19h. 31m., Dec. + 27° 58'.

Arthur Davis Aug. 2016